

INTERESTS	<ul style="list-style-type: none"> <li>• Distributed Machine Learning Systems</li> <li>• Data Center Networks</li> <li>• Networked Systems</li> <li>• Programmable Data Planes</li> </ul>
EDUCATION	<p><b>University of Illinois Chicago, USA. Ph.D., Computer Science.</b> CGPA: 4.00/4.00 2017–2023</p> <p>- Thesis: Latency Optimization in Datacenters using Adaptive Transport and Reliable Training</p> <p><b>Sharif University of Technology, Tehran, Iran. M.Sc., Computer Eng.</b> CGPA: 3.80/4.00 2013–2015</p> <p>- Thesis: Traffic Management of Software-Defined Networks</p> <p><b>University of Tehran, Tehran, Iran. B.Sc., Electrical and Computer Eng.</b> 2008–2013</p> <p>- Major: Information Technology Eng. Major GPA: 3.61/4.00</p>
SOFTWARE PROFICIENCIES	<p>◇ <b>Languages: Proficient:</b> Python, C/C++, P4<sub>16</sub> (BA Certificate), <b>Familiar:</b> Bash, Awk, SQL, Ivy, Processing</p> <p>◇ <b>ML and HPC:</b> PyTorch Distributed, Horovod, NCCL, nvprof, Open MPI, BytePS, Slurm</p> <p>◇ <b>Network:</b> P4 Studio, ns-3, bmv2, DPDK, RDMA, Wireshark, Mininet, Ryu, NetworkX</p> <p>◇ <b>Cloud:</b> AWS, Terraform, Kubernetes, Docker, Ansible</p> <p>◇ <b>Misc.:</b> Git, <math>\LaTeX</math>, NumPy, Matplotlib, Seaborn, Matlab</p>
PROFESSIONAL EXPERIENCE	<p><b>Software Engineer,</b> Sarmad Smart Solutions, Tehran, Iran. 2017</p> <p>- Developed an iOS mobile payment application for rental properties</p> <p><b>Technical Expert,</b> Aseman, Tehran, Iran. 2016</p> <p>- Developed a technical master plan for national IPTV/OTT service deployment</p> <p><b>Network Administrator,</b> Towzin Electric Corp., Tehran, Iran. 2009–2013</p> <p>- Maintained a network of ~200 end hosts and 15 application servers with geographically distributed sites throughout the country (part-time job)</p>
PUBLICATIONS	<p><b>Flag Aggregator:</b> Scalable Distributed Training under Failures and Augmented Losses using Convex Optimization, arXiv:2302.05865. 2023</p> <p><b>Protean:</b> Adaptive Management of Shared-Memory in Datacenter Switches, INFOCOM. 2023</p> <p><b>MTP:</b> TCP is Harmful to In-Network Computing: Designing a Message-Oriented Transport Protocol, HotNets. 2021</p> <p><b>Smartbuf:</b> An Agile Memory Management for Shared-Memory Switches in Datacenters, IWQoS. 2021</p> <p><b>Pulser:</b> Fast Congestion Response using Explicit Incast Notifications for Datacenter Networks, LANMAN. 2019</p> <p><b>ICON:</b> Incast Congestion Control using Packet Pacing in Datacenter Networks, COMSNETS. 2019</p>
RESEARCH EXPERIENCE	<p><b>AIOpt and BITS Labs,</b> University of Illinois Chicago 2017–2023</p> <p>- Robust gradient aggregation for Byzantine resilience in distributed deep learning systems 🔗</p> <p>- Agile buffer management for burst absorption in programmable switches 🔗</p> <p>- A new offload-friendly message-oriented transport protocol 🔗</p> <p>- Alleviating incast congestion collapse in low latency datacenter networks 🔗</p> <p><b>Network Architectures and Protocols Lab,</b> Sharif University of Technology 2014–2015</p> <p>- Worked on network resource reservation by end host applications in Software-Defined Networks (SDNs) through an API to the controller 🔗</p>
TEACHING EXPERIENCE	<p><b>University of Illinois Chicago</b> 2018–2022</p> <p>- Data Structures(×2), Introduction to Networking(×3), Database Systems</p> <p><b>Sharif University of Technology</b> 2014–2015</p> <p>- Computer Networks, Software Defined Networking, Wireless Networking, Advanced Computer Networks, Data Transmission</p>
COMMUNITY SERVICE	<p>- <b>Artifact Evaluation Committee:</b> SOSP 2021 - <b>Program Committee:</b> IMC 2019</p> <p>- <b>Reviewer:</b> Journal of High Speed Networks 2020 - <b>Organizer:</b> ICNP 2019</p>